Applicants respectfully request that the Examiner reconsider and withdraw the objection to claim 6.

2. Rejection of claims 1-6 and 8-10 under 35 U.S.C. § 103(a)

The Official Action states that claims 1-6 and 8-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Terahara et al. (WO 02/38139).

RESPONSE

Applicant respectfully traverses this rejection of claims 1-6 and 8-10. The cited reference does not establish a *prima facie* case of obviousness against the presently pending claims. To establish a prima facie case of obviousness, the PTO must satisfy three requirements. First, as the U.S. Supreme Court recently held in KSR International Co. v. Teleflex Inc. et al., Slip Opinion No. 04-1350, 550 U.S. ____ (April 30, 2007), "a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. ...it [may] be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person

having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. ...it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." (KSR, supra, slip opinion at 13-15). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. Amgen Inc. v. Chugai Pharm. Co., 18 USPQ 1016, 1023 (C.C.P.A 1970). Lastly, the prior art references must teach or suggest all the limitations of the claims. In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

Further, the Supreme Court in KSR reiterated the framework for determining obviousness that was stated in Graham v. John Deere Co. 383 U.S. 1, 148 USPQ 459 (1966). The four factual inquiries that were recited in Graham are as follows: (1) Determining the scope and contents of the prior art; (2)

Ascertaining the differences between the prior art and the claims in issue; (3) Resolving the level of ordinary skill in the pertinent art; and (4) Evaluating evidence of secondary considerations, such as unexpected results. Id. As stated in **MPEP 2141**, secondary considerations such as unexpected results must be considered in every case in which they are present.

A. The Presently Claimed Invention

The presently claimed invention as exemplified by currently amended independent claim 1 is directed to:

> A patch comprising a backing layer and an adhesive layer disposed on the backing layer and compounded with an adhesive agent and oxybutynin and/or a pharmaceutically acceptable salt thereof, wherein the adhesive layer comprises an acrylic polymer substantially free of both carboxyl group and hydroxyl group in the molecule and a rubber polymer, and weight ratio of content of the acrylic polymer to content of the rubber polymer is from 1:4 to 1:19.

B. The Teachings of the Terahara *et al*. Reference

The Terahara *et al*. reference teaches a transdermal preparation containing a drug in the form of an acid addition salt, and an adhesive layer comprising an acrylic polymer and a rubber polymer.

C. No *prima facie* Case of Obviousness has Been Shown by the Examiner

There is no teaching in the cited reference which would motivate the skilled artisan to modify the teachings of the Terahara *et al.* reference to achieve the results obtained using the transdermal patch formulation recited in the presently pending claims. Without such a teaching, the skilled artisan would have absolutely no motivation to take the teachings of this reference to arrive at the presently pending claims. In particular, the Terahara *et al.* reference does not disclose the combination of components required by pending claim 1, namely oxybutynin, a rubber polymer, and an acrylic polymer substantially free of both carboxyl group and hydroxyl group in the molecule and the rubber polymer. Specifically, Example 1 shown at paragraph 0048 in the Terahara *et al.* reference teaches the use of the drug Procaterol hydrochloride and the acrylic polymer, methyl methacrylate-butyl methacrylate-dimethylaminoethyl methacrylate copolymer. Further, Example 4 shown at paragraph 0054 in the Terahara *et al.* reference teaches the use of oxybutynin hydrochloride, however, "an acrylic polymer substantially free of carboxyl group and hydroxyl group in the molecule and rubber polymer" is not disclosed. Nowhere

in the Terahara *et al.* reference is there any teaching that would lead the skilled artisan to arrive at the features required by the presently pending claims.

As such, the Examiner has provided no reason to combine the known elements in the fashion claimed by the applicants. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness.

D. The Unexpectedly Superior Properties of the Claimed Matrix

As stated in **MPEP 716.02**, the rationale to support a conclusion that the claims would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art at the time of the invention. Accordingly, Applicants' data submitted in the present specification shows unexpected, and thus unpredictable results for the formulations comprising the claimed components.

Applicants kindly bring the Examiner's attention to the unexpectedly superior properties of the presently claimed matrix

outlined in Tables 1 and 2 on pages 27 and 29 of the instant specification. The data clearly shows enhanced maximum skin permeation rates for the drug oxybutynin in those examples that contain all the components as recited in the presently pending claims when compared to prior art examples where one or more of the claimed components are not present in the composition. In particular, Examples 1-5 summarized in Tables 1 and 2 show drug permeation rates per unit area of skin for compositions containing the presently claimed components. Comparative Examples 1-5 in Tables 1 and 2 show drug permeation rates for compositions lacking at least one of the components of the presently claimed formulation. The data clearly shows superior skin permeation rates and patch properties, when compared to the drug permeation rates for compositions lacking at least one of the claimed components.

Accordingly, the results outlined in Tables 1 and 2 on pages 27 and 29 of the instant specification show unexpectedly superior results for the compositions consisting of the presently claimed components. As such, the presently pending claims are not obvious over the Terahara *et al.* reference. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-6 and 8-10.

3. Rejection of claims 1 and 4-10 under 35 U.S.C. § 103(a)

The Official Action states that claims 1 and 4-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chono et al. (EP 1201232).

RESPONSE

Applicant respectfully traverses this rejection of claims 1 and 4-10. The cited reference does not establish a *prima facie* case of obviousness against the presently pending claims. The requirements for establishing a *prima facie* case of obviousness, as previously discussed in Section 2, are incorporated herein by reference in their entirety.

A. The Presently Claimed Invention

As previously discussed, the presently claimed invention as exemplified by currently amended independent claim 1 is directed to:

> A patch comprising a backing layer and an adhesive layer disposed on the backing layer and compounded with an adhesive agent and oxybutynin and/or a pharmaceutically acceptable salt thereof, wherein the adhesive layer comprises an acrylic polymer substantially free of both carboxyl group and hydroxyl group in the molecule and a rubber polymer, and weight ratio of content of the acrylic polymer to content of the rubber polymer is from 1:4 to 1:19.

B. The Teachings of the Chono *et al.* Reference

The Chono *et al.* reference teaches a patch formulation comprising a basic drug, an adhesive layer, and a backing layer for supporting the adhesive layer.

D. The Unexpectedly Superior Properties of the Claimed Matrix

As previously discussed, secondary considerations, such as unexpected results, may be sufficient to overcome a conclusion of obviousness. See **MPEP 716.02 and 2145.** Accordingly, Applicants kindly bring the Examiner's attention to the unexpectedly superior properties of the claimed matrix outlined in Tables 1 and 2 on pages 27 and 29 of the instant specification. The data clearly shows enhanced maximum skin permeation rates for the drug oxybutynin in those examples that contain all the components as recited in the presently pending claims when compared to the examples where one or more of the claimed components are not present in the composition. Examples 1-5 summarized in Tables 1 and 2 show drug permeation rates per unit area of skin for compositions containing the presently claimed components. Comparative Examples 1-5 in Tables 1 and 2 show drug permeation rates for compositions lacking at least one of the components of the claimed formulation. The data clearly shows superior skin permeation rates and patch properties, when

compared to the drug permeation rates for compositions lacking at least one of the claimed components.

The Chono *et al.* reference does not show any examples containing the combination of components required by the presently pending claims, namely "a backing layer and an adhesive layer disposed on the backing layer and compounded with an adhesive agent and oxybutynin and/or a pharmaceutically acceptable salt thereof, wherein the adhesive layer comprises an acrylic polymer substantially free of both carboxyl group and hydroxyl group in the molecule and rubber polymer." Further, there is no teaching anywhere in the Chono *et al.* reference that would motivate a person of ordinary skill in the art to arrive at the particular combination of components recited in the presently pending claims. In particular, Examples 2 and 3 in the Chono *et al.* reference show compositions comprising oxybutynin and a blend of rubber polymers, but lacking the acrylic polymer required by the presently pending claims. Examples 2 and 3 shown in the Chono *et al.* reference are analogous to Comparative Examples 1, 4 and 5 shown in the present specification because the compositions disclosed in both sets of examples lack the acrylic polymer(s) required by the presently pending claims. The results shown in Examples 1-5 of

the present specification show unexpectedly superior results compared to those compositions lacking an acrylic polymer as required by the presently pending claims.

Accordingly, the results outlined in Tables 1 and 2 on pages 27 and 29 of the instant specification show unexpectedly superior results for the compositions containing the claimed components. As such, the presently pending claims are not obvious over the Chono *et al.* reference. Accordingly, applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1 and 4-10.

4. Provisional Rejection of Claim 1 under the Judicially Created Doctrine of Obviousness-Type Double Patenting

The Official Action states that claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 8 and 13 of copending U.S. Patent Application Serial No. 10/469,612.

Applicants respectfully request that the Examiner hold this rejection in abeyance until such time as the Examiner indicates there is successful resolution of the claim rejections noted above. Applicants, at that time, will either address the rejection or file a terminal disclaimer over copending U.S. Patent Application No. 10/469,612.

CONCLUSION

Based upon the above remarks and amendment, the presently claimed subject matter is believed to be novel and patentably distinguishable over the prior art of record. The Examiner is therefore respectfully requested to reconsider and withdraw all rejections and allow all pending claims in this application. Favorable action with an early allowance of the claims pending in this application is earnestly solicited.

The Examiner is welcomed to telephone the undersigned attorney if she has any questions or comments.

Respectfully submitted,
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